epileptic attacks; it acts more quickly and surely than bromides but is less useful in petit mal. Potassium boricotartrate, in doses of 45 grains a day, has been successfully used by Pierre Marie. Here also the attacks are prevented without the depression frequently accompanying bromide therapy. The author concludes that luminal and perhaps potassium boricotartrate are the only new agents of value in the treatment of epilepsy. Christin speaks of the new conception of the nature of epilepsy developed by Hortenberg, who believes that inhibition has a large share in the development of the attacks. The main interest of this theory lies in the treatment evolved by Hortenberg. He employed strychnine up to as much as 2 grains by mouth; even these formidable doses never resulted in epileptic attacks but rather improved the condition of the patients.

Study of Oxytoxics.—GUGGISBERG (*Schweiz. med. Wchnschr.*, February 3, 1921) recommends pituitary extracts in the treatment of weak labor pains, but urges the necessity of initial small doses. Intravenous administration is the method of choice. Ergot is the mainstay after labor; if administered before the complete expulsion of fetus and placenta, tetanic contraction of the uterus may occur. Experiments on isolated organs showed that quinine in low concentrations caused more frequent contractions, and this effect lasted longer than that following pituitary extract or ergot. Large doses of quinine caused paralysis after an initial period of marked stimulation. Quinine never caused tetanus of the uterus. The dose of quinine during labor should be 4 grains of the sulphate, repeated after an hour. Quinine is also useful in the treatment of abortion, especially where non-operative treatment is indicated in the presence of active infection. Others have reported favorably on the addition of quinine to the narcotics used in the induction of twilight sleep. Quinine is recommended in the early stages of labor, pituitary extract during the second stage, and ergot at the end of labor. Guggisberg mentions investigations carried out with various combinations of drugs. The most favorable results were obtained from a combination of quinine and pituitary extract, and of ergot with placental extract. The author states that he has proved the existence in the placenta of substances stimulating uterine contractions, the action of which appears to render the uterus more sensitive to normal and therapeutic stimuli.

PEDIATRICS

UNDER THE CHARGE OF

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The Calcium Metabolism of Premature Infants.—HAMILTON (*Am. Jour. Dis. Children*, October, 1920) says that the calcium metabolism of premature infants has never been studied before this, but this study is justified by the fact that these infants are more liable to acquire

rickets than full-term babies. It is also a common experience that bone symptoms appear in the premature at an early age, and that the condition more often takes a grave course than in other infants. It has been assumed that this tendency is caused by the absence of a congenital store of calcium, supposed to be present in full-term babies. About 85 per cent of the body's calcium at birth is stored during the last two or three months of intra-uterine life, so that a premature birth exposes the body to postnatal life with a proportionately small amount of calcium. It is thought that this fact is partly responsible for the prevalence of rickets among the premature. The proportionately small amount of calcium in the body of the premature newborn may possibly lead to a state of calcium starvation in the course of postnatal growth. There are, however, in the postnatal growth of prematures often certain characteristic features which might also unfavorably influence the calcium metabolism. Although the difference in corporal development between the premature and the full-term newborn may be very great, there is in the healthy premature, when properly nourished and cared for, a great tendency to make good this difference. It is not unusual for such an infant to double its weight in three months, and triple it in six months. The question arises whether the tissues formed in the rapid recovery from an acute or chronic nutritional disturbance are of the same composition as in the more slowly growing bodies of normal infants. It is logical to believe that they are rich in water and poor in salts. The author made studies on 4 infants born from four to ten weeks before full-term. The causes of the premature births were advanced pulmonary tuberculosis in the mothers in 3 cases, and nephritis and eclampsia in the other 1. In the cases of tuberculosis the babies were separated from the mothers immediately after delivery. Symptoms of tuberculosis and syphilis were absent in all cases during the period of observation. The Wassermann tests were negative. The infants were nourished from birth exclusively on breast milk given in bottles. They gained rapidly in weight during the months in which the experiments were carried out. The stools at times were both frequent and loose both during the experiments and in the intervals. These were the normal loose and frequent stools that are frequently seen in babies on breast milk. Three of the 4 infants had a very low calcium retention during the first months of life. This might possibly be ascribed to rickets, as in all of the children craniotabes appeared in the second month. This is not in harmony with the fact that although the craniotabes increased in the months that followed, the retention of calcium increased to amounts found in normal infants. It was demonstrated that in those periods where the intakes exceeded 200 mg., the retentions are as large as in normal infants, while in the periods where the intakes were lower than this amount, there was sufficient retention in only 1 case. If sufficient retentions are to be attained, it would seem that the intake must exceed a minimum of 200 mg. The calcium is excreted mainly in the stool. The daily amount of feces excreted by prematures is very large, a fact that may be explained by the low fat absorption found in prematures. The daily values of the total solids are consequently higher than in normal infants, although the quantities of milk taken by prematures are very small. The calcium percentages